



## General

### Guideline Title

American Academy of Orthopaedic Surgeons appropriate use criteria for non-arthroplasty treatment of osteoarthritis of the knee.

### Bibliographic Source(s)

American Academy of Orthopaedic Surgeons (AAOS). American Academy of Orthopaedic Surgeons appropriate use criteria for non-arthroplasty treatment of osteoarthritis of the knee. Rosemont (IL): American Academy of Orthopaedic Surgeons (AAOS); 2013 Dec 6. 314 p. [2 references]

### Guideline Status

This is the current release of the guideline.

## Regulatory Alert

### FDA Warning/Regulatory Alert

Note from the National Guideline Clearinghouse: This guideline references a drug(s) for which important revised regulatory and/or warning information has been released.

- [August 31, 2016 – Opioid pain and cough medicines combined with benzodiazepines](#) : A U.S. Food and Drug Administration (FDA) review has found that the growing combined use of opioid medicines with benzodiazepines or other drugs that depress the central nervous system (CNS) has resulted in serious side effects, including slowed or difficult breathing and deaths. FDA is adding Boxed Warnings to the drug labeling of prescription opioid pain and prescription opioid cough medicines and benzodiazepines.
- [March 22, 2016 – Opioid pain medicines](#) : The U.S. Food and Drug Administration (FDA) is warning about several safety issues with the entire class of opioid pain medicines. These safety risks are potentially harmful interactions with numerous other medications, problems with the adrenal glands, and decreased sex hormone levels. They are requiring changes to the labels of all opioid drugs to warn about these risks.

## Recommendations

### Major Recommendations

#### Assumptions of the Writing Panel

Before these Appropriate Use Criteria (AUC) are consulted, it is assumed that:

1. The clinician knows the contraindication to the utilization of certain medications and the anesthetic or important surgical contraindications to operative interventions.
2. Prescription of narcotic medicine for refractory pain (oral or transcutaneous opioids) should be monitored, intermittent or low dose in conjunction with other therapies.
3. The patient has a diagnosis of osteoarthritis of the knee.
4. The patient is symptomatic including pain, instability, stiffness, and/or deformity that leads to loss of function.
5. The patient's symptoms are consistent with the history, physical exam, and imaging findings.
6. The imaging findings are consistent with osteoarthritis (joint space narrowing, sclerosis, and osteophytes).
7. Anterior-posterior (AP) and/or posterior-anterior (PA)-flexion weight-bearing, lateral, and patellar view radiographs are obtained.
8. If a patient has a body mass index (BMI)  $\geq 30$ , discussion of and/or referral for weight loss and nutritional counseling is strongly recommended.
9. The physical examination, history, and imaging studies have excluded the following potential causes of knee pain:
  - Referred pain from the spine
  - Ipsilateral hip arthritis
  - Ankle/foot deformity
  - Vascular disease (arterial or venous)
  - Non-articular causes of knee pain including soft-tissue disorders
  - Neoplasm
  - Neuropathy
  - Stress fractures, insufficiency fracture, osteonecrosis, or symptomatic metabolic bone disease
10. The physician has an informed discussion with the patient about the treatment options and that the optimum treatment options may change over time for the patient. Before operative intervention is recommended, the appropriateness and potential efficacy of non-operative intervention has been considered.
11. There will be patients for whom arthroplasty may be the most appropriate treatment, but the appropriateness of arthroplasty was not considered in these appropriate use criteria.
12. At the time of the development of these appropriate use criteria, the serotonin-norepinephrine reuptake inhibitors (SNRI) were not part of the guideline and were not part of the data analyzed. Therefore, they were not considered as a treatment.

#### Results of Appropriateness Rating

The AUC tables (see pages 20-307 in the original guideline document) contain the final appropriateness ratings assigned by the sixteen members of the voting panel. Patient characteristics are found under the column titled "Scenario." The AUC for each patient scenario can be found within each of the 10 treatment rows. These criteria are formatted by appropriateness labels (i.e., "R"=Rarely Appropriate, "M"=May Be Appropriate, and "A"=Appropriate), median rating, and + or - indicating agreement or disagreement amongst the voting panel, respectively.

## Clinical Algorithm(s)

None provided

## Scope

### Disease/Condition(s)

Osteoarthritis of the knee

Note: The following conditions are not covered in this Appropriate Use Criteria (AUC):

- Inflammatory disorders that are the likely cause of the knee pain
- Rheumatoid arthritis
- Osteoarthritis of other joints
- Other inflammatory arthropathies

## Guideline Category

Management

Treatment

## Clinical Specialty

Family Practice

Geriatrics

Internal Medicine

Orthopedic Surgery

Physical Medicine and Rehabilitation

Rheumatology

## Intended Users

Occupational Therapists

Physical Therapists

Physicians

## Guideline Objective(s)

- To determine appropriateness of non-arthroplasty treatment of osteoarthritis of the knee for the heterogeneous patient population routinely seen in practice
- To improve patient care and obtain the best outcomes while considering the subtleties and distinctions necessary in making clinical decisions

## Target Population

Adults (ages 19 years and older) who have been diagnosed by a physician with osteoarthritis of the knee and are undergoing treatment

Note: This guideline does not cover asymptomatic patients with inflammatory disorders that are likely causes of knee pain or patients receiving growth factor injections and platelet rich plasma.

## Interventions and Practices Considered

1. Self-management programs including lower extremity and core strengthening, and low-impact aerobic exercises; engaging in physical activity consistent with national guidelines, along with patient education about activity modification and the variable progression of the disease
2. Prescribed physical therapy which may include: range of motion, strengthening, aerobic exercise program, appropriate use of ambulatory aids, neuromuscular education, or other common modalities
3. Hinged knee brace and/or unloading brace (varus or valgus)
4. Non-steroidal anti-inflammatory drugs (NSAIDs; oral or topical)
5. Narcotic medicine for refractory pain (oral or transcutaneous opioids) - monitored, intermittent or low dose in conjunction with other therapies
6. Tramadol
7. Acetaminophen
8. Intraarticular corticosteroids
9. Arthroscopic partial meniscectomy or loose body removal
10. Realignment osteotomy

## Major Outcomes Considered

- Pain at rest
- Morning stiffness
- Pain on weight bearing
- Pain score
- Pain relief
- Functional status

## Methodology

### Methods Used to Collect/Select the Evidence

Searches of Electronic Databases

### Description of Methods Used to Collect/Select the Evidence

Concurrent with the writing panel developing the criteria, the American Academy of Orthopaedic Surgeons (AAOS) Evidence-Based Medicine Unit undertook a literature review based on the results of the AAOS Clinical Practice Guideline on Treatment of Osteoarthritis of the Knee and all literature published after the release of the clinical practice guideline related to the treatment of osteoarthritis of the knee. This literature review informed the decisions relevant to the indications identified by the writing panel when they were available and necessary. The literature review also considered lower quality evidence when the best available evidence (i.e., randomized control trials) did not contain information relevant to the clinical scenarios. The full results of the literature review can be reviewed by visiting the [AAOS PEER \(Presentation and Evaluation of Evidence-Based Research\) Tool](#) .

### Number of Source Documents

The 2013 osteoarthritis of the knee (OAK) clinical practice guideline (CPG) literature search included articles published from 1966 to May 1, 2012; 218 articles met the inclusion criteria and are summarized in the evidence tables of the CPG.

The 2013 OAK appropriate use criteria (AUC) aggregated search total for included literature published between 1966 and August 1, 2013: 257 articles met the inclusion criteria and are included as supporting evidence.

### Methods Used to Assess the Quality and Strength of the Evidence

Weighting According to a Rating Scheme (Scheme Given)

### Rating Scheme for the Strength of the Evidence

American Academy of Orthopaedic Surgeons (AAOS) Evidence-Based Clinical Practice Guidelines Appraising Evidence Quality and Applicability

The Guideline Work Group formulates questions and sets inclusion criteria for the literature review. AAOS staff research analyst appraises research studies that meet the inclusion criteria using the APPRAISE system adopted from the GRADE Working Group. The studies are classified into four categories for evidence appraisal: 1) Incidence & Prevalence, 2) Screening & Diagnosis, 3) Prognosis, and 4) Treatment. Literature is appraised using the series of questions in each domain. To arrive at the quality and applicability of the evidence for a given outcome, all domains except "Statistical Power" are termed "flawed" if one or more of the evaluation domains are answered "No," or if there are two or more "Unclear" answers. The "Statistical Power" domain is considered flawed if a given study did not enroll enough patients to detect a standardized difference between means of at least 0.2.

The Strength of Evidence for each article is determined by the appraisal of its quality and applicability. For example, if the quality of the study is

"High," the strength cannot be further upgraded so the final study strength is also "High," if applicability is "High" or "Moderate." If the quality of the study is "Very Low," the evidence is considered too weak to allow for increased confidence in it, so the final study strength will be "Low" regardless of how applicable it is. The preliminary study strength can be upgraded by one step if the applicability is "High" or downgraded by one level if applicability is "Low." Study strength is not modified if the applicability is "Moderate."

The combination of Quality and Applicability categories determine the strength of evidence of each article. Each study's quality and applicability is assumed to have "high" quality and applicability at the start, but is downgraded if the domains are flawed. The combine quality and applicability scores determine the strength of evidence for a study.

See Appendix VI in the [AAOS clinical practice guideline on the treatment of osteoarthritis of the knee, 2nd edition](#) , for information on the relationships between domain scores and quality and applicability for each of the categories.

## Methods Used to Analyze the Evidence

Systematic Review with Evidence Tables

### Description of the Methods Used to Analyze the Evidence

Following the publication of the evidence-based clinical practice guideline, development of the Appropriate Use Criteria begins. The best available scientific evidence is synthesized with collective expert opinion on topics where gold standard randomized clinical trials are not available or are inadequately detailed for identifying distinct patient types. When there is evidence corroborated by consensus that expected benefits substantially outweigh potential risks, exclusive of cost, a procedure is determined to be appropriate. The American Academy of Orthopaedic Surgeons (AAOS) uses the Research and Development/University of California, Los Angeles (RAND/UCLA) Appropriateness Method (RAM). The process includes these steps: reviewing the results of the evidence analysis, compiling a list of clinical vignettes, and having an expert panel comprised of representatives from multiple medical specialties to determine the appropriateness of each of the clinical indications for treatment as "Appropriate," "May be Appropriate," or "Rarely Appropriate."

## Methods Used to Formulate the Recommendations

Expert Consensus (Delphi)

Expert Consensus (Nominal Group Technique)

### Description of Methods Used to Formulate the Recommendations

The American Academy of Orthopaedic Surgeons (AAOS) uses the Research and Development/University of California, Los Angeles (RAND/UCLA) Appropriateness Method (RAM). Based on the topics in the AAOS Treatment of Osteoarthritis of the Knee evidence-based clinical practice guideline, members of the writing panel developed a list of 576 patient scenarios and ten treatments. The review panel reviewed these scenarios and treatments independently to ensure that they were representative of patients and scenarios clinicians are likely to encounter. The voting panel participated in two rounds of voting. During the first round of voting, the voting panel was given approximately one month to independently rate the appropriateness of the ten treatments for the 576 patient scenarios as "Appropriate," "May Be Appropriate," or "Rarely Appropriate" via an electronic ballot. After the first round of appropriateness ratings were submitted, AAOS staff calculated the median ratings for each patient scenario and specific treatment. An in-person voting panel meeting was held in Rosemont, IL on October 18th of 2013. During this meeting, voting panel members addressed the scenarios/treatments which resulted in disagreement (definition of disagreement can be found in Table 3 in the original guideline document). The voting panel members were asked to rerate their first round ratings during and after the voting panel meeting, only if they were persuaded to do so by the discussion and available evidence. Voting occurred during the in-person meeting and continued for approximately 3 weeks following the meeting. The voting panel determined appropriateness by rating scenarios (i.e., criteria) as "Appropriate," "May Be Appropriate," or "Rarely Appropriate." There was no attempt to obtain consensus about appropriateness.

#### Developing Criteria

Members of the Appropriate Use Criteria (AUC) for Non-Arthroplasty Treatment of Osteoarthritis of the Knee writing panel, who are orthopaedic specialists in treating knee-related injuries/diseases, developed clinical scenarios using the following guiding principles:

- Patient scenarios must include a broad spectrum of patients that may be eligible for treatment of osteoarthritis of the knee [*comprehensive*]
- Patient indications must classify patients into a unique scenario [*mutually exclusive*]
- Patient indications must consistently classify similar patients into the same scenario [*reliable, valid indicators*]

The writing panel developed the scenarios by categorizing patients in terms of indications evident during the clinical decision making process (see Figure 1 in the original guideline document). These scenarios relied upon definitions and general assumptions, mutually agreed upon by the writing panel during the development of the scenarios. These definitions and assumptions were necessary to provide consistency in the interpretation of the clinical scenarios among experts voting on the scenarios and readers using the final criteria.

#### Formulating Indications and Scenarios

The AUC writing panel began the development of the scenarios by identifying clinical indications typical of patients commonly presenting with osteoarthritis of the knee in clinical practice. Indications are most often parameters observable by the clinician, including symptoms or results of diagnostic tests. Additionally, "human factor" (e.g., activity level) or demographic variables can be considered.

Indications identified in clinical trials (derived from patient selection criteria) included in AAOS Clinical Practice Guidelines (CPG) served as a starting point for the writing panel and ensured that these AUC referred to the evidence base for the Treatment of Osteoarthritis of the Knee CPG. The writing panel considered this initial list and other indications based on their clinical expertise and selected the most clinically relevant indications (see Table 5 in the original guideline document). The writing panel then defined distinct classes for each indication in order to stratify/categorize the indication (see Table 5 in the original guideline document).

The writing panel organized these indications into a matrix of clinical scenarios that addressed all combinations of the classifications. The writing panel was given the opportunity to remove any scenarios that rarely occur in clinical practice, but agreed that all scenarios were clinically relevant. The major clinical decision making indications chosen by the writing panel divided the matrix of clinical scenarios into chapters, as follows: Function-Limiting Pain, Range of Motion Extension/Flexion, Ligamentous Instability (not to include analgesic giving way), Pattern of Arthritic Involvement, Imaging (joint space in the most involved compartment), Limb Alignment, Mechanical Symptoms, and Age (see Table 5 in the original guideline document).

#### Creating Definitions and Assumptions

The AUC for Non-Arthroplasty Treatment of Osteoarthritis of the Knee writing panel constructed concise and explicit definitions for the indications and classifications. This standardization helped ensure the way that the writing panel defined function-limiting pain, range of motion extension/flexion, ligamentous instability (not to include analgesic giving way), pattern of arthritic involvement, imaging (joint space in the most involved compartment), limb alignment, mechanical symptoms, and age was consistent among those reading the clinical scenario matrix or the final criteria. Definitions drew explicit boundaries when possible and were based on standard medical practice or existing literature.

Additionally, the writing panel formulated a list of general assumptions in order to provide more consistent interpretations of a scenario (see Assumptions of the Writing Panel in the "Major Recommendations" field). These assumptions differed from definitions in that they identified circumstances that exist outside of the control of the clinical decision making process.

Assumptions also addressed the use of existing published literature regarding the effectiveness of treatment and/or the procedural skill level of physicians. Additionally, assumptions highlighted intrinsic methods described in this document such as the role of cost considerations in rating appropriateness or the validity of the definition of appropriateness. The main goal of assumptions was to focus scenarios so that they apply to the average patient presenting to an average physician at an average facility.

#### Voting Panel Modifications to Writing Panel Materials

The original indications table constructed by the Writing Panel was modified by the Voting Panel during the round two discussions. See the "Methodology" section in the original guideline document for additional details of Voting Panel modifications.

#### Reviewing Scenarios

After the writing panel developed the scenarios, the AUC for Non-Arthroplasty Treatment of Osteoarthritis of the Knee review panel reviewed the proposed chapters in order to ensure that they were representative of patients and scenarios clinicians are likely to encounter. The review panel was comprised of both orthopaedic surgeons who routinely perform treatments for osteoarthritis of the knee and other specialties that may refer patients with osteoarthritis of the knee to a specialist. No member of this panel participated in the writing panel's initial development of the scenarios or participated in the voting panel's appropriateness rating of the scenarios.

Review panel members considered the lists of scenarios, definitions, assumptions, and the literature review associated with each scenario. Each

independent reviewer suggested potential modifications to the content or structure of the lists and literature review. The writing panel provided the final determination of modifications to the indications, scenarios, assumptions, and literature review that would be included in the materials sent to the voting panel.

### Determining Appropriateness

#### Voting Panel

A multidisciplinary panel of clinicians was assembled to determine the appropriateness of treatments for osteoarthritis of the knee. This group consisted of approximately 50% specialists and 50% non-specialists. Two non-voting moderators, who are orthopaedic surgeons but are not specialists in the treatment of osteoarthritis of the knee, facilitated the voting panel. The moderators were familiar with the methods and procedures of AAOS AUC and led the panel (as non-voters) in discussions. Additionally, no member of the voting panel was involved in the development (writing panel) or independent review (review panel) of the scenarios.

The voting panel used a modified Delphi procedure to determine appropriateness ratings. The voting panel participated in two rounds of voting while considering evidence-based information provided in the literature review. While cost is often a relevant consideration, panelists focused their appropriateness ratings on the effectiveness of treatment for osteoarthritis of the knee.

#### Rating Appropriateness

When rating the appropriateness of a scenario, the voting panel considered the following definition:

"An appropriate treatment for osteoarthritis of the knee is one for which the treatment is generally acceptable, is a reasonable approach for the indication, and is likely to improve the patient's health outcomes or survival."

They then rated each scenario using their best clinical judgment, taking into consideration the available evidence, for an average patient presenting to an average physician at an average facility as follows:

Table. Interpreting the 9-Point Appropriateness Scale

Rating	Explanation
>7-9	Appropriate: Appropriate for the indication provided, meaning treatment is generally acceptable and is a reasonable approach for the indication and is likely to improve the patient's health outcomes or survival.
4-6	May Be Appropriate: Uncertain for the indication provided, meaning treatment may be acceptable and may be a reasonable approach for the indication, but with uncertainty implying that more research and/or patient information is needed to further classify the indication.
1-3	Rarely Appropriate: Rarely an appropriate option for management of patients in this population due to the lack of a clear benefit/risk advantage; rarely an effective option for individual care plans; exceptions should have documentation of the clinical reasons for proceeding with this care option (i.e. procedure is not generally acceptable and is not generally reasonable for the indication).

Each panelist uses the scale below to record their response for each scenario:

#### *Appropriateness of [Topic]*

- Rarely Appropriate: 1, 2, 3
- May Be Appropriate: 4, 5, 6
- Appropriate: 7, 8, 9

#### Round One Voting

The first round of voting occurred after completion of the independent review of the scenarios by the review panel and approval of the final indications, scenarios, and assumptions by the writing panel. The voting panel rated the scenarios electronically using a personalized ballot created by AAOS staff using the AAOS AUC Electronic Ballot Tool. There was no interaction between panel members while completing the first round of voting. Panelists considered the following materials:

- The instructions for rating appropriateness
- The completed literature review, that is appropriately referenced when evidence is available for a scenario

- The list of indications, definitions, and assumptions, to ensure consistency in the interpretation of the clinical scenarios

## Round Two Voting

The second round of voting occurred after the in-person voting panel meeting on October 18th, 2013. Before the in-person meeting started, each panelist received a personalized document that included their first round ratings along with summarized results of the first-round ratings that resulted in disagreement. These results indicated the frequency of ratings for a scenario for all panelists. The document contained no identifying information for other panelists' ratings. The moderator also used a document that summarized the results of the panelists' first round voting. These personalized documents served as the basis for discussions of scenarios which resulted in disagreement.

During the discussion, the voting panel members were allowed to record a new rating for any scenarios if they were persuaded to do so by the discussion or the evidence. Additionally, voting panel members were allowed to submit any amended ratings (i.e., second round ratings) until November 6th, 2013. After the final ratings were submitted, AAOS staff used the AAOS AUC Electronic Ballot Tool to export the median values and level of agreement for all voting items. There was no attempt to obtain consensus among the panel members.

## Final Ratings

Using the median value of the second round ratings, AAOS staff determined the final levels of appropriateness. Disagreement among raters can affect the final rating. Agreement and disagreement were determined using the BIOMED definitions of Agreement and Disagreement, as reported in the RAND/UCLA Appropriate Method User's Manual, for a panel of 14-16 voting members (see Table 2 in the original guideline document). For this panel size, disagreement is defined as when  $\geq 5$  members' appropriateness ratings fell within the appropriate (7-9) and rarely appropriate (1-3) ranges for any scenario (i.e.,  $\geq 5$  members' ratings fell between 1-3 and  $\geq 5$  members' ratings fell between 7-9 on any given scenario and its treatment). If there is still disagreement in the voting panel ratings after the second round of voting, that voting item is labeled as "5" regardless of median score. Agreement is defined as  $\leq 4$  panelists rated outside of the 3-point range containing the median.

See Table 3 in the original guideline document for more information on final ratings.

## Rating Scheme for the Strength of the Recommendations

Not applicable

## Cost Analysis

A formal cost analysis was not performed and published cost analyses were not reviewed.

## Method of Guideline Validation

Internal Peer Review

## Description of Method of Guideline Validation

American Academy of Orthopaedic Surgeons (AAOS) Appropriate Use Criteria (AUC) Section, the AAOS Council on Research and Quality, and the AAOS Board of Directors sequentially approved the Appropriate Use Criteria for Non-Arthroplasty Treatment of Osteoarthritis of the Knee. See Appendix A in the original guideline document for additional information on documentation of approval.

## Evidence Supporting the Recommendations

### Type of Evidence Supporting the Recommendations

The type of supporting evidence is not specifically stated for each recommendation.

This Appropriate Use Criteria (AUC) for Non-Arthroplasty Treatment of Osteoarthritis of the Knee is based on a review of the available literature regarding treatment of osteoarthritis of the knee and a list of clinical scenarios (i.e., criteria) constructed and voted on by experts in orthopaedic



surgery and other relevant medical fields.

## Benefits/Harms of Implementing the Guideline Recommendations

### Potential Benefits

Relief of pain and improvement in the patient's functioning

### Potential Harms

Most interventions are associated with some potential for adverse outcomes, especially if invasive or operative. Reducing risks improves treatment efficacy and is accomplished through collaboration between patient and physician.

## Contraindications

### Contraindications

Contraindications vary widely by procedure.

## Qualifying Statements

### Qualifying Statements

- Volunteer physicians from multiple medical specialties created and categorized these Appropriate Use Criteria (AUC). These AUC are not intended to be comprehensive or a fixed protocol, as some patients may require more or less treatment or different means of diagnosis. These AUC represent patients and situations that clinicians treating or diagnosing musculoskeletal conditions are most likely to encounter. The clinician's independent medical judgment, given the individual patient's clinical circumstances, should always determine patient care and treatment.
- These criteria should not be construed as including all indications or excluding indications reasonably directed to obtaining the same results. The criteria intend to address the most common clinical scenarios facing all appropriately trained surgeons and all qualified physicians managing patients under consideration for managing osteoarthritis of the knee. The ultimate judgment regarding any specific criteria should address all circumstances presented by the patient and the needs and resources particular to the locality or institution. It is also important to state that these criteria were developed as guidelines and are not meant to supersede clinician expertise and experience or patient preference.
- Some drugs or medical devices referenced or described in this document may not have been cleared by the U.S. Food and Drug Administration (FDA) or may have been cleared for a specific use only. The FDA has stated that it is the responsibility of the physician to determine the FDA clearance status of each drug or device he or she wishes to use in clinical practice.

## Implementation of the Guideline

### Description of Implementation Strategy

#### Disseminating Appropriate Use Criteria

Publication of the Appropriate Use Criteria (AUC) document is on the American Academy of Orthopaedic Surgeons (AAOS) Web site at <http://www.aaos.org/auc>  and on the Web-based mobile application at [www.aaos.org/aucapp](http://www.aaos.org/aucapp) .

This document provides interested readers with full documentation about the development of AUC and further details of the criteria ratings.

AUCs are first announced by an Academy press release and then published on the AAOS website. AUC summaries are published in *AAOS Now* and the *Journal of the American Academy of Orthopaedic Surgeons (JAAOS)*. In addition, the Academy's Annual Meeting showcases the AUCs on Academy Row and at Scientific Exhibits.

The dissemination efforts of AUC include web-based mobile applications, webinars, online modules for the Orthopaedic Knowledge Online website, radio media tours, and media briefings. In addition AUCs are also promoted in relevant Continuing Medical Education (CME) courses and distributed at the AAOS Resource Center.

Other dissemination efforts outside of the AAOS include submitting AUCs to the National Guideline Clearinghouse and to other medical specialty societies' meetings.

## Implementation Tools

Foreign Language Translations

Mobile Device Resources

Patient Resources

Resources

For information about availability, see the *Availability of Companion Documents* and *Patient Resources* fields below.

## Institute of Medicine (IOM) National Healthcare Quality Report Categories

### IOM Care Need

Getting Better

Living with Illness

### IOM Domain

Effectiveness

Patient-centeredness

## Identifying Information and Availability

### Bibliographic Source(s)

American Academy of Orthopaedic Surgeons (AAOS). American Academy of Orthopaedic Surgeons appropriate use criteria for non-arthroplasty treatment of osteoarthritis of the knee. Rosemont (IL): American Academy of Orthopaedic Surgeons (AAOS); 2013 Dec 6. 314 p. [2 references]

### Adaptation

Not applicable: The guideline was not adapted from another source.

## Date Released

2013 Dec 6

## Guideline Developer(s)

American Academy of Orthopaedic Surgeons - Medical Specialty Society

## Source(s) of Funding

The American Academy of Orthopaedic Surgeons exclusively funded development of these Appropriate Use Criteria. The American Academy of Orthopaedic Surgeons received no funding from outside commercial sources to support the development of these Appropriate Use Criteria.

## Guideline Committee

Non-arthroplasty Treatment of Osteoarthritis of the Knee Appropriate Use Criteria (AUC) Writing Panel

## Composition of Group That Authored the Guideline

*Writing Panel Members:* David F. Dalury, MD, The Knee Society; Craig J. Della Valle, MD, Knee Society; Mark I. Ellen, MD, American Academy of Physical Medicine and Rehabilitation; Eric P. Gall, MD, MACP, MACR, Arthritis Foundation; Brian J. McGrory, MD, American Association of Hip and Knee Surgeons; Jennifer Stevens-Lapsley, PT, PhD, American Physical Therapy Association; AJ Yates, Jr., MD, American Association of Hip and Knee Surgeons

*Review Panel Members:* Miguel A. Ayerza, MD, PhD, Association of Bone and Joint Surgeons; Santiago de Solo, MD, Arthritis Foundation; Robin Dore, MD, Arthritis Foundation; G. Kelley Fitzgerald, PT, PhD, FAPTA, American Physical Therapy Association; E. Robert Harris, MD, Association of Bone and Joint Surgeons; Richard Haynes, MD, Association of Bone and Joint Surgeons; William M. Jones, MD, American Academy of Physical Medicine and Rehabilitation; Jeffrey Katz, MD; Kent Kwok, MD, Arthritis Foundation; Amanda Nelson, MD; Lee Rosenzweig, PT, DPT, CHT; James A. Shaw, MD, Knee Society; Jasvinder Singh, MD, American Academy of Orthopaedic Surgeons; Mark Spanghel, MD, Association of Bone and Joint Surgeons; Audrey Tsao, MD, Association of Bone and Joint Surgeons; Joseph Zeni, PT, PhD, American Physical Therapy Association

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*Voting Panel Round Two Discussion Moderators:* James O. Sanders, MD; Michael Heggeness, MD

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## Financial Disclosures/Conflicts of Interest

In accordance with American Academy of Orthopaedic Surgeons policy, all individuals whose names appear as authors or contributors to this document filed a disclosure statement as part of the submission process. All authors provided full disclosure of potential conflicts of interest prior to participation in the development of these Appropriate Use Criteria. Disclosure information for all panel members can be found in Appendix B in the original guideline document.

## Guideline Status

This is the current release of the guideline.

## Guideline Availability

Electronic copies: Available from the [American Academy of Orthopaedic Surgeons \(AAOS\) Web site](#) .

Print copies: Available from the American Academy of Orthopaedic Surgeons, 6300 North River Road, Rosemont, IL 60018-4262. Telephone: (800) 626-6726 (800 346-AAOS); Fax: (847) 823-8125; Web site: [www.aaos.org](#) .

## Availability of Companion Documents

The following are available:

- Appropriate Use Criteria (AUC) process. Rosemont (IL): American Academy of Orthopaedic Surgeons (AAOS). 9 p. Electronic copies: Available from the [American Academy of Orthopaedic Surgeons \(AAOS\) Web site](#) .
- An interactive literature review used for the Appropriate Use Criteria for non-arthroplasty treatment of osteoarthritis of the knee is available from the [AAOS Web site](#) .
- A mobile app for non-arthroplasty treatment of osteoarthritis of the knee is available from the [AAOS Web site](#) .

## Patient Resources

The following is available:

- Arthritis of the knee. OrthoInfo patient information. Rosemont (IL): American Academy of Orthopaedic Surgeons. 2014 Jun. Available in English and Spanish from the [American Academy of Orthopaedic Surgeons Web site](#) .

Please note: This patient information is intended to provide health professionals with information to share with their patients to help them better understand their health and their diagnosed disorders. By providing access to this patient information, it is not the intention of NGC to provide specific medical advice for particular patients. Rather we urge patients and their representatives to review this material and then to consult with a licensed health professional for evaluation of treatment options suitable for them as well as for diagnosis and answers to their personal medical questions. This patient information has been derived and prepared from a guideline for health care professionals included on NGC by the authors or publishers of that original guideline. The patient information is not reviewed by NGC to establish whether or not it accurately reflects the original guideline's content.

## NGC Status

This NGC summary was completed by ECRI Institute on May 12, 2014. The information was verified by the guideline developer on June 12, 2014. This summary was updated by ECRI Institute on September 18, 2015 following the U.S. Food and Drug Administration advisory on non-aspirin nonsteroidal anti-inflammatory drugs (NSAIDs). This summary was updated by ECRI Institute on June 2, 2016 following the U.S. Food and Drug Administration advisory on Opioid pain medicines. This summary was updated by ECRI Institute on October 21, 2016 following the U.S. Food and Drug Administration advisory on opioid pain and cough medicines combined with benzodiazepines.

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